Lou DeBottari

pm

RECEIVED

DEC 0 2 1999 **EIS000401**

12/2/1999 **Faxed to Ms. Wendy R. Dixon, EIS Project Manager**

Subject: Comments on Draft Environmental Impact Statement for Geologic Repository at Yucca Mountain.. Oral Summary Given in Carson City

1 Volume 1 pg. 1-19 summarizes the problem with this DEIS. In section 1.4.3.2 Viability Assessment, the 2nd bullet states.." a total system performance based on the design concept and the scientific data and analysis available by 1998 that describes the ***probable behavior*** of the repository...." This report is loaded with similar wiggle words and computer simulations that are only as good as the data feed to it. It is difficult for me to see how DOE can be so sure that this is the best for this country and for the state of Nevada when their entire argument is based on computer simulations. DOE doesn't trust simulations in other programs that they are responsible for. For example, after the test ban on underground testing, they still want to perform actual tests on components of the bombs to understand the aging process. They have sophisticated programs that model all the functions and operation of the bomb. It tells me that they do not have the confidence to predict performance 10 years ahead and yet they want the public to believe that they have the tools to predict the safety of the storage of high level nuclear waste for 10,000 years with respect to public health and safety. This is the Achilles heel . The hard data is not available at this

2 time. It is clear from the data presented for the "NO Action Alternative" that the storage presently being used around the country is safe for at least another 100 years. DOE attempts to down play Scenario 1 and 2 ,Volume 1 pg. I-21 first line. where it says "DOE recognizes that neither scenario would be likely, if there were a decision not to develop a repository at Yucca Mountain...." What does this statement mean? Is it because the strong political lobby East of the Mississippi want the stuff out of their backyard.? It certainly isn't a health and safety problem for at least another 100 to 200 years. DOE will package and store the material in the same type of containers that are planned for use at Yucca Mt.. This was stated in vol. 1 pg. 2-1 2nd paragraph. The transportation risks are now eliminated and the country has time to re-visit other means of disposal . The last time DOE examined other techniques, for example, disposal into a sun orbit was in 1974. That is over 25 years ago and the technology has advanced significantly since then. Recent studies still include the Space Shuttle which is the wrong vechicle.

3 This DEIS attempts to paint a picture that the proposed action is the less costly by use of smoke and mirrors. A few months ago the reported costs for this project was over 60 billion, not including the cost of monitoring for thousands of years. The report now states the costs are 28.8 billion and would vary somewhat (pg. 2-59 1st par.) How much is "***somewhat***"?. What is the track record for DOE in bringing projects within budget. They speak to all other areas of this project but have no data on how well they have managed past projects. DOE, as expected, priced the No-Action Alternative in the 50 billion range for the first 100 years. In this cost they included

4 the decommissioning of Yucca Mt. I believe that there is a middle of the road approach. Stop work on the construction but do not decommission the site (how much will this save?), continue work on the canister design effort, re-visit the use of space as a disposal site and after a 50 year period come back and re-visit all the options. According to this DEIS the present storage facilities are good for 100 years and if re-furbished are good for another 100 years. Within that time period I am sure that this country and possibly the world can come up with a method in which the storage risk is assumed by the generation who stored it and not future generations who had no voice in the decision. I request a written answer on why the above plan cannot be implemented.

I will now address various sections of Vol. 1.

(1)

5 pg. 2-20 5th par.. How much will be processed and to what facilities will the waste be shipped. You must know the facilities and was this transportation figured into the accident rates? What does the following statement mean.?. "For example, decontamination water ***could*** .(emphasis added) be treated and recycled to the ***extent practicable***."

6 pg. 2-32 3rd par.. "Waste packages are loaded with fissile material and neutron absorbers, ***if needed***,....." Who and when decides this? Why isn't this part of the baseline design?
pg. 2-33, fig. 2-20. This DEIS is asking for approval of a project with all the "back-up data and analysis" and yet one of the most critical areas is still labeled "***potential***"
pg. 2-34, fig. 2-21 Same comment as above except in this figure it is a "***conceptual***" design
I can't understand how DOE can do a detail reliability analyze on a conceptual design.

7 pg. 2-37, section 2.1.2.3 Repository Closure 2nd par.. There is no discussed plan on how the sealed repository will be monitored. If there is a monitoring plan, what is the plan if the monitoring reports a significant failure due to unforeseen problems. There must be a contingency plan in place ***before*** the DEIS is approved.

8 pg. 2-40 section 2.1.3.2 National Transportation, 2nd par. last sentence. Please explain why armed escorts would only be required in heavily populated areas? Is each person in a populated area have a higher value?

9 pg.. 2-43, section 2.1.3.2.3 Mostly Rail Shipping Scenario, 2nd par. What is the criteria for making the decision on whether DOE will utilize general or dedicated freight service. Isn't this a part of the study that should have been discussed in the DEIS?

10 pg. 2-57 the three bullets indicate that DOE will continue study design improvements. Why can't these studies be used in the No-Action Alternative and thus improve the storage life at the various sites?

11 pg. 2-61, section 2.2.2.1 Storage Packages and Facilities at Commercial and DOE Sites, 4th par. "Figure 2-38 shows a typical dry storage canister,..... ." Are these canisters the same as what will be used in the proposed action? If not why not?

12 pg. 2-65 High-Level Radioactive Waste Storage Facilities, 2nd par. "the canister cavities are ***galvanized*** steel....."... Why not stainless steel?

13 pg. 2-69, 2.3.1 Alternatives Addressed under the Nuclear Waste Policy Act, 1st par. It is incumbent on DOE to re-visit the alternatives that were dismissed in 1981. Some of the data that was used to make the decision was about 10 years old at that time. The last sentence of the referenced paragraph needs some clarification. How many and who were on the panel of National Academy of Sciences in 1990 who made the statement ...."that there is a worldwide scientific consensus that deep geologic disposal, the approach being followed by the United States, is the best option for disposing of high-level radioactive waste." Who are these "experts"?

14 pg. 2-87 section 2.6 Preferred Alternative, 2nd sentence "The analysis in this EIS did not identify any potential environmental impacts....." A significant amount of the analysis was done with computer modeling and attempting to extend the impacts out many years without the use of real data. DOE, as stated earlier has ***no*** confidence in computer simulations, or they would not be testing components of nuclear bombs to see if they will operate properly. Why should we depend on simulations to protect the health and safety of future generations?

15 pg. 2-88 last sentence This sentence says it all. A DEIS is prepared to tell the public all the good and bad about the proposed project. The statement that additional field surveys, state and local government consultations, environmental and engineering analysis, and National Environmental policy Act reviews will be necessary clearly state that this EIS is not complete. One of the underpinnings of the proposed project is the transportation problems. I am pleased to read that

15 cont'd. DOE admits the analysis is not complete and thus this DEIS is not ready to be approved by the Secretary of Energy. The additional environmental and engineering analysis must be circulated and public hearings held before the Secretary may agree that the study is complete.

16 pg. 3.-79 section 3.1.8 Occupational and Public Health and Safety. This section is a play on numbers. Public health officials are always trading off for example, the amount of people who will die from a flu shot vs. how many will die if there is no flu shot available. All these calculations are irrelevant if there was a method to keep the flu out of the state. I don't believe it is the number who will die that is important but the number whose quality of life will be diminished because of the proposed project. This is a very difficult if not impossible to quantify especially when children and pregnant women are factored into the equation. I saw no data on how the radiation exposure is increased by the concentration of the radiation when cows digest grass that is radiated, drink water and then the milk sold to citizens. Root plants also will concentrate the radiation. I did not find any mention of this in the report.

17 pg. 2-84 section 3.1.8.3 The discussion focuses on the workers in the tunnel. There is no mention of the workers who are not in the tunnel but will be exposed to the dust from the material removed from the drilling. What is the impact of strong winds moving the material to the public.. DOE position is that they will "use the experience gained during Experimental Studies Facility activities to design engineering controls to minimize future exposures.". What does the statement mean? How many will have a reduced quality of life and how many will die? Are these people working for a company who come under SISS?

18 pg. 5-16, section 5.2.3.6 Nuclear Criticality, This is typical of this report. " In addition, it is ***very unlikely*** (what chance) that a ***sufficient quantify*** (how much) of fissionable materials could accumulate outside the waste packages in the ***precise*** (how precise) configuration and with the ***required conditions*** (what are conditions) to create a criticality.
If, somehow, an external criticality were to occur, ***analysis indicate*** (the information must be available, and why can't it be proven in an experiment) that it would have only ***minor*** (what is minor) on repository performance." A reference that supposedly explains the statement is not part of the DEIS. The DEIS is a stand alone document.

19 pg. 5-17 The following statements sum up the problem with this DEIS: "Similarly, fewer studies or more assumptions produce greater potential for uncertainty", Longer time scales for forecasts produce greater potential for uncertainty", and finally computation tools or more assumptions produce greater potential for uncertainty". These quotes sum up the problem with this DEIS. DOE wants the public to agree to "TRUST ME" without supplying any data, DOE is asking the public to believe them that Nevada will have no problems for the next 10000 years. I think that is very hard to swallow when there is no REAL data to support the simulations to 100 years in the future.
pg. 5-18, section 5.2.4.2 Uncertainty Associated with Currently Unavailable Data. In this section DOE admits to the lack of data and present a plan to obtain some the data. There is no time line to show the reader how long it will be before the data DOE believes is necessary will be available. In section 5.2.4.3 pg. 5-19 DOE admits the large degree of uncertainty on the modeling of the impacts from groundwater migration. DOE attempts to explain how they handled the uncertainty and finally stated on pg. 5-20 last sentence of the 1st par "..... uncertainty, is not always as exact as desired." DOE uses about 4 pages to justify the lack of data and the reliance on modeling. This is to finally convince the reader that they (DOE) have their arms around the problem and sum it up with table 5-3 on pg. 5-22. The column titled confidence in the models rates various attributes of the repository and principal factors of the design. DOE gave a rating from High to

19 cont'd. Low and then in the far right column rated the significance of the attribute or factor. The low confidence ratting either had a high or medium significance. There should no approval of this DEIS until DOE can prove that they really have their arms around the problem.

20 pg. 5-23, 3rd par. The statement" The Department in the context of preparing a performance evaluation that provides for a "reasonable assurance" of safety, ***generally*** agrees with the Panel's advice.". What does DOE not agree with and why?

21 pg. 5-23, 4th par., last sentence "....DOE believes the performance results of this EIS are conservative estimates,....". The question to be asked, "Who knows how conservative the DOE estimates are"?

22 pg. 5-28, 1st par. last sentence. Until now DOE has stated that it is difficult to obtain precise values. This section discussed juvenile failures and made the ambiguous statement that they would be very low. DOE proceeded to say that if there were no failures the mean consequences would decrease by 2%. They have not proven that anything in this DEIS is accurate to 2%.

23 pg. 5-37, last par. 3rd line. "....zirconium alloy would provide some impediment....if the waste package was breached." Another example of adjectives that have no meaning in an engineering report.

24 pg. 5-43 section Seismic Disturbances, 2nd par. "***probably would***" and "***would have to be larger***" have no meaning when one attempts to quantify a problem. What is larger to one may be insignificant to another. We can't at this time quantify an earthquake with any certainty but DOE clearly attempts to quantify earthquakes 1000 years in the future. I am sure the insurance companies and FEMA would like to have their software program.

25 pg. 5-49, section 5.10 Summary, The analysis is very detail discussing the latent cancer fatalities with respect to a chosen scenario. For the undisturbed case DOE state "..that it is mostly likely that no person would die due to groundwater contamination by radiological material in the 10,000 year period. I want to know what is the worst case scenario using a pregnant women and young children to establish the dose rate.

26 pg. 6-7 The analysis indicates that there may be cancer related deaths due to the transportation of material. I want to know the number of people, including children, and unborn children whose

27 quality of life will be diminished due to exposure. The nuclear industry has received from Congress a liability limit on any injury caused by the operation of a nuclear plant. I want an answer on the following. Will this liability limit be extended to the transportation phase of this project?

28 pg. 6-17,18, section 6.2 National Transportation, I understand the probability and if one goes back and examines the train wreck that spilled thousands of of gallons of toxic material into the Sacramento River it probably is outside the limits for the model used by DOE. It only takes one to do significant damage. The difference between all the past accidents and one that could occur transporting nuclear waste is that past accidents were cured in one life time but the nuclear accident time to cure could extend over many life times. The reference section is again laced with adjectives that do not belong in an engineering document. If you can state it is not "likely" or "unlikely" or "very unlikely" state the probability. No place in this document did I find any comment on the nuclear waste that is imported with respect to quantity and route. **Please provide the data to me.**

29 pg. 6-24, Table 6-6. I want to know the exposure to a person with a baby who is next to a mostly legal-weight truck that is stopped next to her in a traffic jam where she is not more than 10 feet from the truck. This should be included in the table 6-6.

30 pg. 6-25, last sentence., DOE attempts to show that the natural environment is a big factor and that approximately 2.9 million members of the referenced population will incur fatal cancers from all other causes and thus their conclusion is that the project causes a very insignificant amount (2). A more cogent question how many of the 2.9 million life were shortened due to the project?

31 pg. 6-28 block at the bottom of the page. DOE uses the argument that if the accident is not reasonable it is not analyzed.. This is defined by conditions that occur more often 1 in 10 million times a year. They eliminate any conditions that occur less than that number. The public should be told of what can happen because if it can it will in the years that material is being transported..

32 pg. 6-33, 6.2.4.2.3 Impacts of Acts of Sabotage, last par. Did DOE evaluate the penetration of a cask while traveling through a populated area? If not why not? A follow on question, Has DOE tested a cask loaded with spent fuel, penetrated by a typical weapon to see how close the simulations are to the real world?

33 pg. 8-11, figure 8-3, I am glad to see a nuclear rocket development station on the test site.

34 pg. 9-13, Long-Term Performance Measures Under Consideration. The referenced studies are useful for the No- Action Alternative. The implementation of the noted measures would be very germane to the dry storage facilities.

35 pg. 10-2, section 10.1.1.3 Hydrology, last par. Again computer simulations, "experts" and preliminary results of corrosion experiments prove the packages would last more than 10,000 years. This is a very difficult and admitted by DOE is subject to considerable uncertainty. The integrity of the entire project is predicated on stable waste containers. Computer simulations if DOE had their way, is the solution for 10,000 year storage. None of us will be around but we may be the reason for the end of our environment as we know it. We can't play God for future generations.

36 pg. 10-9, 10.2.1.4 Occupational and Public Health and Safety This is what I call puffing. DOE states " A repository at Yucca Mt. would be likely (another adjective, no support) to have a positive effect on the nationwide general public occupational and public health because of the cessation of doses to workers at the present storage sites and more isolated from concentration of people....." What this says we, DOE, have the votes in Congress from the states East of the Mississippi, and forget the Central and Western States and who cares if we impact Las Vegas.

37 In closing I recommend that DOE not be the lead for any alternative study. I believe the NIH (Not invented here) is to too pervasive in DOE There is plenty of time to examine alternatives and as I said in my opening there are possibilities that will insure that the disposal is accomplished in the next 100 years that will not impact future generations.

38 Finally a good report would indicate what is wrong with the project. DOE is not GOD and thus there must be problems with this project that at this time, do not have solutions. I never trust a report that only tells me the good points. It means that the proponents have not fairly analyzed the project. This is a sales brochure, not a study. I expect to receive answers to the questions that I have asked before the final EIS is completed.

Sincerely,

Lou deBottari
1820 Citadel Circle
Carson City, NV 89703
(775)841-3941

5